# Behaviour Analysis Interview and Common Sense: A Study with Novice and Experienced Officers

**Article** *in* Psychiatry Psychology and Law · February 2012

DOI: 10.1080/13218719.2010.543402



**3 authors**, including:

Jaume Masip
Universidad de Salamanca
**108** PUBLICATIONS **2,316** CITATIONS
SEE PROFILE

Carmen Herrero
Kintsugi Therapeutics
**62** PUBLICATIONS **2,320** CITATIONS
SEE PROFILE

Running Head: BEHAVIOUR ANALYSIS INTERVIEW AND COMMON SENSE

This is a pre-print versión of a paper published in:
Psychiatry, Psychology and Law
Vol. 19, No. 1, February 2012, 21–34
doi: 10.1080/13218719.2010.543402
http://www.tandfonline.com

# Behaviour Analysis Interview and Common Sense. A Study with Novice and Experienced Officers

Jaume Masip, Alberto Barba, and Carmen Herrero

University of Salamanca, Spain

The present research was supported by the University of Salamanca, *Convocatoria de Ayudas para Proyectos de Investigación Correspondientes al Año 2010*.

Correspondence to: Jaume Masip, Department of Social Psychology and Anthropology, University of Salamanca, Facultad de Psicología, Avda. de la Merced, 109-131, 37005 Salamanca, Spain. Telephone number: Int +34 923 294400, ext. 3324. E-mail: jmasip@usal.es

Abstract

The Behaviour Analysis Interview (BAI) is an interview protocol designed to generate different reactions in guilty and innocent suspects. Masip et al. (in press) found that students had the same views about the guilt or innocence indicators of the BAI as the BAI proponents. This suggests that training in the BAI may only reinforce the trainees' pre-existing beliefs. However, the typical BAI trainees are not students, but law enforcement personnel. In this study, Masip et al.'s questionnaire was administered to novice and experienced officers. Results revealed that the officers share the BAI proponents' assumptions to the same extent as Masip et al.'s student sample. Averaging across all three samples, support was found for the prediction that the BAI notions are just common sense for all of the BAI questions but one. A marginal trend emerged for veteran officers with interviewing experience to assign more guilt to the suspects' reactions than their peers without such experience.

*Key words*. Behaviour Analysis Interview, BAI, detection of deception, interviewing, common sense.

Suspects often lie during a police interview. When asked about a crime, it is very likely that both guilty and innocent suspects will deny their involvement. Therefore, as pointed out by DePaulo and Morris (2004), a suspect's verbal answer to the question of whether she or he committed the crime is not a reliable indicator of guilt or innocence. As a result, police officers must peek behind the suspects' overt answers to determine whether they are lying or telling the truth –for example by heeding subtle verbal and nonverbal cues (DePaulo & Morris, 2004). However, telltale behavioural deception cues do not abound, and their discrimination power is moderated by a number of variables (see meta-analyses by DePaulo et al., 2003; Sporer & Schwandt, 2006, 2007). In view of this, it is not surprising that police officers are not more accurate than lay persons at distinguishing between truths and lies, with accuracy rates that hardly exceed chance (for reviews and meta-analyses see Aamodt & Custer, 2006; Alonso, Masip, & Garrido, 2009; Bond & DePaulo, 2006; Bradford & Goodman-Delahunty, 2008; King & Dunn, 2010; Vrij, 2008). Interview protocols specifically designed to help the police differentiate between guilty and innocent suspects are therefore needed. Inbau, Reid, Buckley, & Jane's (2004[1]) Behavioural Analysis Interview (BAI) is one such protocol.

The BAI is a kind of interview marketed by the U.S. firm John E. Reid and Associates, and is part of the Reid technique of interviewing and interrogation, which seems to be the most prevalent method of police interrogation training in the U.S. (Kassin et al., 2007). The most important part of the BAI is a series of 15 *behaviour-provoking questions*. These questions can be adapted to any case and are specifically designed to yield distinct reactions in innocent and guilty individuals (Table 1). The rationale behind the BAI is that, relative to innocent suspects, guilty suspects will feel less comfortable during the interview, will be less willing to help the police, and will try to conceal their knowledge about the offence (Horvath, Blair, & Buckley, 2008; Vrij, 2008). In contrast, innocent suspects are expected to be helpful because they experience the

"Sherlock Holmes Effect" (Horvath et al., 2008), i.e., they know they did not commit the crime, wonder who did, want to help the police to solve the case, and are willing to share their suspicions as to who the guilty person might be (Horvath et al., 2008).

Some initial in-house field research appeared to show some promise as to the BAI ability to differentiate between guilty and innocent suspects (Blair & McCamey, 2002; Horvath, Jayne, & Buckley, 1994). However, this research has been criticized because of a number of methodological limitations (see Alonso, Masip, Garrido, & Herrero, 2009; Masip, Garrido, Herrero, & Barba, in press; Vrij, 2008; Vrij, Mann, & Fisher, 2006). Foremost amongst them is the uncertainty concerning the actual guilt or innocence of the suspects. A controlled simulation study in which the suspects' involvement in the crime was firmly established (they had committed a mock crime or not) was conducted in an independent laboratory, and revealed that for most of the BAI questions there were no significant differences between the reactions of guilty and innocent participants (Vrij et al., 2006). For the four BAI questions in which significant differences were found, these differences were *opposite* to Inbau et al.'s assertions, i.e., those reactions that Inbau et al. maintained were indicators of guilt were actually indicators of innocence. The results of this well-conducted study cast doubt on the usefulness of the BAI to detect guilty individuals.

Vrij et al. (2006) demonstrated that the BAI indicators of guilt and innocence are inaccurate. The question is where these indicators come from. Masip et al. (in press) suggested that they could be common-sense notions reflecting the "folk wisdom" of police officers and lay persons alike. In Study 1, Masip et al. asked 85 participants to read the transcripts of two BAIs (pp. 184-189 of Inbau et al.'s [2004] manual), one with an innocent suspect and one with a guilty suspect. Then the participants had to indicate who the guilty person was. Some participants had been allocated to the informed group –they had received detailed information about the BAI indicators of guilt and innocence. Some other participants had been allocated to the naïve group, i.e., they had received

no previous information on the BAI. Virtually all of the informed group participants were accurate in identifying the guilty suspect, but more of the naïve group participants than expected by chance were also accurate. In Study 2, Masip et al. (in press) designed a questionnaire to examine whether the behaviours that the BAI proponents maintain are guilt indicators were judged by lay participants ($N = 83$) as more indicative of guilt than the behaviours that the BAI proponents maintain are innocence indicators. The results strongly supported this prediction: the participants' notions coincided with Inbau et al.'s views for all of the BAI behaviour-provoking questions except three. In other words, not only the BAI indicators of guilt and innocence differ from the empirical evidence (Vrij et al., 2006), but they also coincide with lay participants' beliefs about guilt and innocence indicators. They are just common-sense beliefs, and John E. Reid and Associates' training in the BAI can only strengthen the trainees' previous mistaken beliefs. Indeed, law-enforcement and security professionals are in need of interview protocols to identify guilty suspects; however, these protocols must be grounded in sound science instead of faulty common sense beliefs.

One possible weakness of Masip et al.'s (in press) studies is that the participants were undergraduate students. The usual clients of John E. Reid and Associates' training seminars are not students, but law enforcement trainees or professionals. Thus, the external and ecological validities of Masip et al.'s (in press) studies are in question. It is uncertain whether police officers' beliefs about the BAI indicators of guilt and innocence coincide with those of lay individuals. Although research on beliefs about deception cues has revealed no major differences between "professional lie detectors" and lay people (Strömwall, Granhag, & Hartwig, 2004), to our knowledge no systematic research has ever been published specifically comparing police officers' and lay people's beliefs about the BAI indicators of guilt and innocence. In a similar vein, it is worth comparing the beliefs about the BAI indicators of novice and veteran officers, as well as

those of experienced interrogators or interviewers vs. officers with no interrogation or interviewing experience. Do job experience as an officer and experience in conducting interviews or interrogations strengthen the beliefs about the BAI indicators of guilt and innocence? Or do these factors make officers more sceptical about the revealingness of the behaviours listed by Inbau et al. as guilt or innocence indicators?

All of these questions were examined in the present study. Masip et al.'s (in press, Study 2) questionnaire was used to collect data from police recruits and experienced officers. Among those in the latter group, some had interviewing or interrogation experience whereas others had no such experience. Comparisons were made between police recruits and veteran officers, as well as between the police groups and Masip et al.'s (in press) student sample. Within the experienced officers group, comparisons were made between those with experience in conducting interviews or interrogations and those with no such experience.

## Method

### *Participants*

All of the participants were police officers in the Spanish National Police Force (Cuerpo Nacional de Policía) studying at the police academy in Ávila (Spain) to become police inspectors. Experienced officers may apply to be promoted to inspectors. Also, after passing a competitive examination, non-officers may enter the police academy to become inspectors. Some plain officers often take this examination as well, so they do not have to wait many years before being promoted to inspectors. In this study, the experienced officers sample was made up of 77 individuals (71 males, 5 females, 1 unknown; *M* age = 45 years, *SD* = 3.85) with an average of 22 years of job experience (*SD* = 3.92) who had successfully applied to be promoted to inspectors. The novice officers sample was made up of 35 individuals (20 males and 15 females; *M* age = 30 years, *SD* = 3.04). Fourteen of them (8 males and 6 females) had entered the police force some months earlier

after passing a competitive examination. The remaining 21 (12 males and 9 females) had spent an average of 4 years ($SD$ = 1.35) in the police force before passing that competitive examination. The novice and experienced samples differed significantly in gender, $\chi^2$ (1, $N$ = 111) = 21.35, $p <$ .001, and age, $t$ (109) = 20.24, $p <$ .001. Forty-one of the experienced officers reported having experience in conducting interviews or interrogations ($M$ experience = 10 years, $SD$ = 5.36).

*Training in conducting interviews or interrogations*. Despite so many officers having experience in conducting interviews or interrogations, only four novice officers and three experienced ones (one of them with interviewing experience) reported having received any formal training in interviewing or interrogations. The duration of such training was generally short (one did not report the duration, two reported 10 hours, one reported one week, one two weeks, one one year, and one five years).

*Training in deception detection*. Only six novice officers and nine experienced officers reported having received any training in deception detection. Three participants did not report what approaches the training had covered; among the other 12, ten reported having been trained in the polygraph, 11 in the nonverbal approach, and nine in the verbal approach (seven participants reported having received training in all three approaches). The training was generally short: eight participants reported a duration of 10 hours, whereas six reported duration of more than 10 hours (one officer did not report the duration of training). In almost all cases ($n$ = 13) the training had consisted of theoretical lectures alone; in one case it also involved role playing and other methodologies, and one participant did not report the methodology.

*Readings*. Only seventeen participants (nine novice officers and eight experienced officers) reported having read at least one book or article on interviewing or interrogations, and only ten (five novice officers and five experienced officers) reported having read at least one book or

article about deception detection (including the seven participants who reported having read books or articles on both topics).

*Material*

The descriptive data about the police samples reported in the previous section were collected with a questionnaire in which the participants had to indicate their gender and age, how they had entered the Executive Scale (training program to become police inspector), how long they had been serving within the police force, whether they had experience in conducting interviews or interrogations (and, if so, the length of this experience), whether they had received any training on interviewing or interrogation (and, if so, the specific kind of training and its length), whether they had received any training in deception detection (and, if so, what the training covered [polygraph, nonverbal approach, verbal approach, other], the teaching methodology [theoretical lectures, role playing, other], and the length of training), and whether they had read any book or article about interviewing or interrogation techniques or about deception detection (and, if so, the title).[2]

The main data were collected with Masip et al.'s (in press, Study 2) BAI questionnaire, which was created to measure the extent to which the participants' views about the typical behaviour of guilty and innocent suspects coincide with those of the BAI proponents. The first page of the questionnaire contained a description of an arson case reported by Inbau et al. (2004, p. 174). Then it was stated that one of the suspects was called Javier, and that the following pages contained the BAI behaviour provoking questions that Javier was asked, each of them followed by a list of answers that he could have given. The instructions on the first page of the questionnaire asked the participants to indicate the degree to which Javier would be guilty or innocent if he had given each of the answers.

The following pages in the questionnaire contained the 15 behaviour-provoking questions of the BAI. After each question, all of the possible suspect's answers expected by the BAI

proponents (Inbau et al., 2004) were listed. For example, Q6 (the credibility question; see Table 1) was followed by these two possible answers: (a) Javier acknowledges that the crime has happened; (b) Javier suggests unrealistic possibilities for the origin of the fire (such as an electrical origin or inappropriate use of smoking material [see Inbau et al., p. 178]). After each answer there was the phrase "If Javier gives this answer, then he is…" followed by a scale ranging from 1 (*innocent*) to 6 (*guilty*). The participants had to indicate how innocent/guilty Javier would be if he had given each particular answer. The number of answers per question ranged from two (for Q6 and Q8) to 11 (for Q2). "Guilty" and "innocent" answers were not in correlative order after each question in the questionnaire (for more information on the questionnaire, see Masip et al., in press).

*Procedure*

The data were collected during the regular social psychology lectures at the Spanish National Police Force Training Centre in Ávila (Spain) in groups of 35 to 40 participants. The descriptive data questionnaire was attached before the first page of the BAI questionnaire. The participants were asked to complete both questionnaires. The task took about half an hour. Afterwards, the participants were debriefed.

## Results

A number of the answers to the BAI questions contained in the questionnaire were "guilty answers," i.e., the answers that Inbau et al. (2004) attribute to guilty suspects. The others were "innocent answers." For each of the 15 BAI questions, the participants' scores were averaged separately for the guilty and innocent answers. In this way, two means were obtained for each question, one reflecting the participants' ratings of guilt for Inbau et al.'s "guilty answers," and the other one reflecting their ratings of guilt for Inbau et al.'s "innocent answers." If the participants' views coincide with Inbau et al.'s notions, then the former ratings should be significantly higher than the latter.

*Novice and Experienced Officers' Views*

We first conducted separate multivariate analyses of variance (MANOVAs) for novice and experienced officers. Inbau et al.'s (2004) type of answer (guilty vs. innocent answers) was entered as the within-subject independent variable and the participants' mean scores on the 15 BAI questions as the dependent variables. At the multivariate level, the effect was significant for both novice officers, *Wilks* $\lambda = 0.14$, $F\ (15, 20) = 8.42$, $p < .001$, $\eta^2 = .863$, and experienced officers, *Wilks* $\lambda = 0.25$, $F\ (15, 62) = 12.67$, $p < .001$, $\eta^2 = .754$. Tables 2 and 3 display the outcomes of the univariate analyses. It is apparent that the novice officers gave significantly greater ratings to guilty answers than to innocent answers for all of the BAI questions but four (Table 2). The exceptions were Q8 (*attitude*; no significant difference found), Q9 (*think*; significant discrimination in the opposite direction), Q11 (*punishment*; marginal signification), and Q14 (*results*; no significant difference found). The experienced officers' views (Table 3) coincided with Inbau et al.'s (2004) notions for all the BAI questions but Q9, for which a significant difference in the opposite direction (greater ratings for innocent than guilty answers) was found[3]. These results are in line with Masip et al.'s (in press) findings with students and show that law enforcement officers, who are among the usual clients of John E. Reid and Associates, also have the same notions about the BAI indicators of guilt and innocence as Inbau et al.

*Test of Sample Effects*

Despite some differences at the level of individual questions between novice and experienced officers, overall both groups did not differ, and did not differ from Masip et al.'s (in press) students' group either ($n = 83$ [77 females, 6 males]; $M$ age = 21 years, $SD = 1.63$), as revealed by a mixed MANOVA with sample (students vs. novice officers vs. experienced officers) as the between-subject independent variable, type of answer (guilty vs. innocent answers) as the

within-subject independent variable, and the participants' mean scores on the 15 BAI questions as the dependent variables. At the multivariate level, neither the main effect for sample, *Wilks* $\lambda$ = 0.86, $F$ (30, 356) = 0.94, $p$ = .567, $\eta^2$ = .073, nor the Sample x Type of Answer interaction effect, *Wilks* $\lambda$ = 0.82, $F$ (30, 356) = 1.23, $p$ = .193, $\eta^2$ = .094, were significant. Only the multivariate main effect for type of answer was significant, *Wilks* $\lambda$ = 0.24, $F$ (15, 178) = 36.96, $p$ < .001, $\eta^2$ = .757. Univariate analyses revealed that for all the BAI questions but Q9 the guilty answers had greater scores than the innocent answers. The effect was in the opposite direction for Q9. The differences were significant for all of the BAI questions, with all $p$s < .001 except for Q11 and Q8, for which $p$ = .003; effect sizes (partial $\eta^2$) ranged from .047 (for Q11) to .610 (for Q2).

*Test of Experience Effects*

Within the experienced officers' sample, 41 reported having an average of 10 years' experience in conducting interviews or interrogations, whereas the remaining 36 did not report any interviewing or interrogation experience. A mixed MANOVA was conducted for the experienced sample entering interviewing experience (with vs. without) and Inbau et al.'s (2004) type of answer (guilty vs. innocent answers) as the independent variables and the participants' mean scores on the 15 BAI questions as the dependent variable. Again, the multivariate type of answer main effect was significant, *Wilks* $\lambda$ = 0.24, $F$ (15, 61) = 12.95, $p$ < .001, $\eta^2$ = .761, and univariate analyses revealed that type of answer had a significant effect on all dependent measures, with all $p$s < .001 except for Q11 ($p$ = .047) and Q13 ($p$ = .017), and with effect sizes (partial $\eta^2$) ranging from .073 (for Q11) to .511 (for Q2). Again, these effects revealed that Inbau et al.'s (2004) guilty answers were rated as more indicative of guilt than Inbau et al.'s innocent answers (except for Q9, for which a significant reverse discrimination was found). Interestingly, the multivariate effect for sample approached significance, *Wilks* $\lambda$ = 0.69, $F$ (15, 61) = 1.79, $p$ = .056, $\eta^2$ = .306. Analyses

showed that generally those officers with interviewing or interrogation experience had higher means (i.e., tended to assign more guilt to the suspect's answers) than those officers without that experience (the only exceptions were Q1, Q6, and Q13, with means in the opposite direction). However, these differences were small, and univariate analyses showed that they reached significance only for Q1 (*purpose*), $F$ (1, 75) = 5.53, $p$ = .021, $\eta^2$ = .069 (means for officers with and without interviewing experience were $M$ = 3.65, $SD$ = 0.13, and $M$ = 3.21, $SD$ = 0.14, respectively), and Q9 (*think*), $F$ (1, 75) = 4.30, $p$ = .042, $\eta^2$ = .054 ($M$ = 3.80, $SD$ = 0.13, and $M$ = 3.40, $SD$ = 0.14, respectively). The multivariate Sample x Type of Answer interaction effect was not significant, *Wilks* $\lambda$ = 0.76, $F$ (15, 61) = 1.29, $p$ = .237, $\eta^2$ = .241.[4]

## Discussion

The BAI is an interview protocol that is being taught to law enforcement personnel as part of the Reid technique of interviewing and interrogation. The only controlled laboratory experiment published so far in which the actual guilt or innocence of the suspects was known for sure revealed that Inbau et al.'s (2004) predictions concerning the BAI indicators of guilt or innocence were inaccurate, and that those indicators were of little use in identifying the culprits (Vrij et al., 2006)[5]. More recently, Masip et al. (in press) showed that the BAI indicators of guilt or innocence were common-sense beliefs as they coincide with lay participants' notions about the reactions of guilty and innocent participants. In addition, these stereotypical views seem to be related to worldwide held stereotypes about the behaviour of liars identified by the Global Deception Research Team (2006; see Masip et al., in press). These findings suggest that law enforcement officers should not receive any training in the BAI, as it might only reinforce their previous inaccurate beliefs.

However, Masip et al.'s (in press) participants were undergraduate students. It may be argued that law enforcement personnel have views different to those of students about guilt or

innocence indicators. This seems unlikely, as previous research has revealed no major differences between the beliefs about deception cues of lay participants and "professional lie detectors" such as police officers (Strömwall et al., 2004). Furthermore, as mentioned above, Inbau et al.'s guilt and innocence indicators seem to be linked to universal stereotypes about lying behaviour (Masip et al., in press). Therefore, we expected law enforcement personnel to hold the same stereotypical beliefs as lay individuals.

The present study supported this prediction. The questionnaire used by Masip et al. (in press) in Study 2 was administered to police recruits and experienced officers. The results were strikingly similar to those of Masip et al., and support the notion that novice and experienced officers have the same beliefs about the BAI indicators of guilt and innocence as lay participants.

For most questions, the views of both Masip et al.'s (in press) *students' sample* and the *novice officers* of the present study coincided with Inbau et al.'s notions. For both of these samples, the exceptions were for Q8 (*attitude*; non-significant effect), Q11 (*punishment*; marginal effect), and Q9 (*think*; significant effect in the opposite direction). Among novice officers, the effect was not significant either for Q14 (*results*). For the *experienced officers' sample*, the differences were significant for all of the BAI questions. In all cases but Q9, these effects revealed that the respondents had assigned greater ratings of guilt to Inbau et al.'s (2004) guilty answers than to their innocent answers. The direction of the effect was opposite for Q9. Despite some non-significant effects in the students' and novice officers' samples, in all cases (except for Q9 in all three samples) the means were in the expected direction. Across all three samples the differences were significant for all of the BAI questions. This reveals that, *except for Q9, all of the BAI indicators of guilt or innocence are in line with what lay participants, novice officers, and experienced officers already believe*. As a result, little new can be learned by the usual clients of John E. Reid and Associates who take the BAI seminars.

The results for Q9 were contrary to our hypothesis and to the findings for the other questions. As Masip et al. (in press) observed, Q9 is very similar to Q6 (in which innocent suspects are expected to be *more* likely than guilty suspects to acknowledge that a crime has been committed), Q7 (innocent suspects are expected to be *more* likely than guilty suspects to acknowledge that they had a chance to commit the crime), and Q10 (innocent suspects are expected to be *more* likely than guilty suspects to provide reasonable motives for the crime), but Inbau et al.'s predictions for Q9 (innocent suspects being *less* likely than guilty suspects to acknowledge having thought about committing the crime) goes in the opposite direction. Therefore, those participants who coincided with Inbau et al.'s views in rating Q6, Q7, and Q10 will very likely rate Q9 in the direction opposite to Inbau et al.'s predictions.

Comparisons between experienced officers with and without interviewing and interrogation experience revealed no significant differences in the beliefs about the BAI indicators of guilt or innocence. A slight trend was however detected among the veteran officers with experience in conducting interviews and interrogation towards assigning more guilt to both guilty and innocent reactions to the BAI questions than the veteran officers without such experience. Nevertheless, these differences were generally small and only reached significance for Q1 (*purpose*) and Q9 (*think*). The main effect for sample was not significant when comparing students, novice officers, and experienced officers. Thus, although previous research shows (a) that police officers have a stronger tendency than non-officers to judge statements as deceptive (see, e.g., Alonso, Masip, & Garrido, 2009; Garrido, Masip, & Herrero, 2004; Meissner & Kassin, 2002), (b) that, in comparison with non-officers, police officers have a stronger tendency to search for deception cues and a weaker tendency to search for truthfulness cues (Masip, Garrido, Herrero, Antón, & Alonso, 2006), (c) that experienced officers are generally more suspicious that both non-officers and novice officers (Masip, Alonso, Garrido, & Antón, 2005; Masip, Alonso, Garrido, & Barba,

2008), and (d) that experienced officers tend to associate stereotypical deception cues with deception more strongly than novice officers (and tend to associate stereotypical truthfulness cues with truthfulness less strongly than novice officers) (Masip & Garrido, 2000), in this study no police sample was more inclined to assign guilt to the suspects' reactions to the BAI questions than the other samples.

The replication of Masip et al.'s (in press) findings with other groups points to the robustness of these findings, as the samples differed not only in occupation (officers vs. students), but also in job experience (novice vs. experienced officers), experience in conducting interviews or interrogations, age, and gender composition.

That the BAI indicators of guilt and innocence reflect shared common-sense beliefs has a number of practical implications (see Masip et al., in press, for a more detailed discussion). Foremost among them is that suspects will also hold these common-sense beliefs and will try to manipulate their behaviour during a BAI in order not to look guilty. Ongoing research at our laboratory is testing this hypothesis, and preliminary findings support this notion. John E. Reid and Associates (and other law-enforcement-training firms and agencies) would be well advised to replace unsupported interview and deception-detection approaches based on faulty common sense notions with empirically-based approaches. A number of such approaches are currently being developed by leading researchers in the interviewing and deception detection fields (see, among others, Granhag, Strömwall, & Hartwig, 2007; Leins, Fisher, Vrij, Leal, & Mann, in press; Porter, Steward, & Campbell, 2007; Vrij, Fisher, Mann, & Leal, 2006; Vrij et al., 2009, 2010). Training agencies should be attentive to such developments.

References

Aamodt, M., & Custer, H. (2006). Who can best catch a liar? A meta-analysis of individual differences in detecting deception. *Forensic Examiner, 16*, 6-11.

Alonso, H., Masip, J., & Garrido, E. (2009). La capacidad de los policías para detectar mentiras [Police officers' ability to detect lies]. *Revista de Derecho Penal y Criminología, 2*, 159-196.

Alonso, H., Masip, J., Garrido, E., & Herrero, C. (2009). El entrenamiento de los policías para detectar mentiras [Police officers' training to detect deception]. *Estudios Penales y Criminológicos, 29*, 7-60.

Blair, J. P., & McCamey, W. P. (2002). Detection of deception: An analysis of the Behavioral Analysis Interview technique. *Illinois Law Enforcement Executive Forum, 2*, 165-169.

Bond, C. F., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review, 10*, 214-234.

Bradford, D., Goodman-Delahunty, J. (2008). Detecting deception in police investigations: Implications for false confessions. *Psychiatry, Psychology and Law, 15*, 105-118.

DePaulo, B. M., & Morris, W. L. (2004) Discerning lies from truths: Behavioural cues to deception and the indirect pathway of intuition. In P.-A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 15-40). Cambridge, UK: Cambridge University Press.

DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin, 129*, 74-118.

Garrido, E., Masip, J., & Herrero, C. (2004). Police officers' credibility judgments: Accuracy and estimated ability. *International Journal of Psychology, 39*, 254-275.

Global Deception Research Team (2006). A world of lies. *Journal of Cross-Cultural Psychology*, *37*, 60-74.

Granhag, P.-A., Strömwall, L., & Hartwig, M. (2007). The SUE technique: The way to interview to detect deception. *Forensic Update, 88*, 25–29.

Horvath, F., Blair, J. P., & Buckley, J. P. (2008). The behavioural analysis interview: Clarifying the practice, theory and understanding of its use and effectiveness. *International Journal of Police Science & Management, 10*, 101-118.

Horvath, F., Jayne, B., & Buckley, J. (1994). Differentiation of truthful and deceptive criminal suspects in Behavior Analysis Interviews. *Journal of Forensic Sciences, 39*, 793-807.

Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2004). *Criminal interrogation and confessions* (4th ed.). Sudbury, MA: Jones and Bartlett Publishers.

Kassin, S. M., Leo, R. A., Meissner, C. A., Richman, K. D., Colwell, L. H., Leach, A.-M., & La Fon, D. (2007). Police interviewing and interrogation: A self-report survey of police practices and beliefs. *Law and Human Behavior, 31*, 381-400.

King, W. R., & Dunn, T, M. (2010). Detecting deception in field settings. A review and critique of the criminal justice and psychological literatures. *Policing: An International Journal of Police Strategies & Management, 33*, 305-320.

Leins, D., Fisher, D., Vrij, A., Leal, S., & Mann, S. (in press). Using sketch drawing to induce inconsistency in liars. *Legal and Criminological Psychology*.

Masip, J., & Garrido, E. (2000). *Experienced and novice officers' beliefs about indicators of deception.* Paper presented at the 10th Conference of the European Association of Psychology and Law, Limassol, Cyprus.

Masip, J., Alonso, H., Garrido, E., & Antón, C. (2005). Generalized Communicative Suspicion (GCS) among police officers: Accounting for the investigator bias effect. *Journal of Applied Social Psychology, 35*, 1046-1066.

Masip, J., Alonso, H., Garrido, E., & Barba, A. (2008). *Police officers' suspicion and veracity judgments.* Paper presented at the 18th Conference of the European Association of Psychology and Law, Maastricht, the Neatherlands.

Masip, J., Garrido, E., Herrero, C. & Barba, A. (in press). Is the Behaviour Analysis Interview just common sense? *Applied Cognitive Psychology*.

Masip, J., Garrido, E., Herrero, C., Antón, C., & Alonso, H. (2006). Officers as lie detectors: Guilty before charged. In D. Chadee & J. Young (Eds.), *Current themes in social psychology* (pp. 187-205). Mona, Jamaica: The University of the West Indies Press.

Meissner, C. A., & Kassin, S. M. (2002). "He's guilty!": Investigator bias in judgments of truth and deception. *Law and Human Behavior, 26*, 469-480.

Porter, S., Steward, C., & Campbell, M. A. (2007). To the best of my knowledge, officer: Investigation of crime questionnaire patterns associated with guilty knowledge concealment. *Canadian Journal of Police & Security Services, 5*, 1-8.

Sporer, S. L., & Schwandt, B. (2006). Paraverbal indicators of deception: A meta-analytic synthesis. *Applied Cognitive Psychology, 20*, 421-446.

Sporer, S. L., & Schwandt, B. (2007). Moderators of nonverbal indicators of deception. *Psychology, Public Policy, and Law, 13*, 1-34.

Strömwall, L., Granhag, P. A., & Hartwig, M. (2004). Practitioners' beliefs about deception. In P. A. Granhag & L. A. Strömwall (Eds.), *Deception detection in forensic contexts* (pp. 229-250). Cambridge, UK: Cambridge University Press.

Vrij, A. (2008). *Detecting lies and deceit: Pitfalls and opportunities*. Chichester, UK: Wiley.

Vrij, A., Fisher, R., Mann, S., & Leal, S. (2006). Detecting deception by manipulating cognitive load. *Trends in Cognitive Sciences, 10,* 141–142.

Vrij, A., Leal, S., Granhag, P. A., Mann, S., Fisher, R., Hillman, J., & Sperry, K. (2009). Outsmarting the liars: The benefit of asking unanticipated questions. *Law and Human Behaviour, 33*, 159-166.

Vrij, A., Leal, S., Mann, S., Warmelink, L., Granhag, P.-A., & Fisher, R. (2010). Drawings as an innovative and successful lie detection tool. *Applied Cognitive Psychology, 24*, 587-594.

Vrij, A., Mann, S., & Fisher, R. P. (2006). An empirical test of the Behavior Analysis Interview. *Law and Human Behavior, 30*, 329-345.

## Notes

[1] The fourth edition of Inbau et al.'s book was published in 2001 by Aspen (Gaithersberg, Maryland). However, we used the 2004 reprint by Jones and Bartlett Publishers (Sudbury, Massachusetts). The page numbers cited elsewhere in the text correspond to the Jones and Bartlett reprint.

[2] In general, the participants did not report the title of the book(s) or article(s) they had read or the interviewing or interrogation approach in which they had been trained.

[3] For Q2, Q3, and Q10, Inbau et al. (2004) differentiated between verbal and nonverbal reactions from suspects. For this reason, in addition to the univariate analyses reported in the text we also conducted univariate analyses separately for the verbal and nonverbal reactions to Q2 and for the verbal reactions to Q10 (but not for the two nonverbal reactions to Q10 because both of these are considered as guilt indicators by Inbau et al.). With regard to Q3, Inbau et al. expect only one nonverbal reaction (sincerity) to this question. Therefore, we could not perform separate analyses for verbal and nonverbal reactions to Q3, but we calculated the effect of type of answer on Q3 without the sincerity rating (i.e., the effect for Q3-verbal). For the *novice officers*, all of these effects were significant: for Q2-verbal, $F$ (1, 34) = 7.09, $p$ = .012, $\eta^2$ = .173; for Q2-nonverbal, $F$ (1, 34) = 93.01, $p$ < .001, $\eta^2$ = .732; for Q10-verbal, $F$ (1, 34) = 15.91, $p$ < .001, $\eta^2$ = .319; and for Q3-verbal. $F$ (1, 34) = 6.90, $p$ < .013, $\eta^2$ = .169. For the *experienced officers*, the effect approached significance for Q2-verbal, $F$ (1, 76) = 3.60, $p$ = .062, $\eta^2$ = .045, and was significant for Q2-nonverbal, $F$ (1, 76) = 99.08, $p$ < .001, $\eta^2$ = .566, Q10-verbal, $F$ (1, 76) = 32.21, $p$ < .001, $\eta^2$ = .298, and Q3-verbal, $F$ (1, 76) = 9.18, $p$ = .003, $\eta^2$ = .108. In all cases the direction of the effect was consistent with our hypotheses.

[4] An additional mixed MANOVA was run to examine the influence of sample with *four* levels (students vs. novice officers vs. experienced officers without interviewing experience vs. experienced officers with interviewing experience) and type of answer (guilty vs. innocent answers) on the participants' mean scores on the BAI questions. The only significant multivariate effect was for type of answer, *Wilks* $\lambda = 0.25$, $F$ (15, 177) = 36.43, $p < .001$, $\eta^2 = .755$, and the univariate analyses revealed that the effect was significant for all of the BAI questions with $p$s < .001 for all questions except Q11 ($p = .002$), and with effect sizes (partial $\eta^2$) that ranged from .047 (for Q11) to .608 (for Q2). The direction of the means was the same as in the previous analyses reported in the text.

[5] Horvath et al. (2008) criticized Vrij et al.'s (2006) study on the grounds that the conditions in that study did not favour the occurrence of the Sherlock Holmes Effect. However, as far as we know the need for the Sherlock Holmes Effect to occur as a prerequisite for the BAI working well was not introduced into the literature until 2008 (by Horvath et al.), two years after the publication of Vrij et al.'s report. No mention of this effect is made in the BAI chapter of Inbau et al.'s (2004) manual. In any case, although the numerous conditions outlined by Horvath et al. (2008) for the BAI to work properly are often met in real cases, they also make it literally impossible to conduct any sound experimental research on the usefulness of the BAI protocol for separating guilty from innocent suspects. Empirically tested interviewing approaches should be preferred to questionable techniques based on untestable claims.

Tables

Table 1

*BAI Behaviour-Provoking Questions and Expected Answers of Guilty and Innocent Suspects*

| Question | General Phrasing | Guilty Answers | Innocent Answers |
|---|---|---|---|
| *Q1. Purpose* | What is your understanding of the purpose for this interview? | Naïve or evasive reply, vague comment | Direct response, realistic language |
| *Q2. History/You* | Did you commit that crime? | Bolstered response, delayed response, evasive response. Crossing of the legs, shifting in the chair, grooming behaviour | Emphatic denial, immediate denial. Forward lean, direct eye contact, use of illustrators |
| *Q3. Knowledge* | Do you know who committed that crime | Geographical or emotional distancing from the crime, denial (without much thought) of any knowledge of whom the guilty person might be, evasive answer. | Intimation of a suspicion, apology for one's denial, statement that one has been thinking about who the culprit might be. The innocent suspect sounds sincere |
| *Q4. Suspicion* | Who do you suspect might have committed that crime? | Resistance to name anyone, or tendency to name the other suspect (if there are only two suspects), and difficulty in giving reasons for fingering the other suspect | Tendency to name someone and give credible reasons for fingering that person |
| *Q5. Vouch* | Is there anyone you could vouch for, anyone you could say for sure didn't commit that crime? | Noncommittal response, or evasive response | Willingness to name specific individuals |
| *Q6. Credibility* | Do you think a crime was really committed? | Suggestion of unrealistic possibilities that exclude that the event was a crime | Acknowledgement that a crime was committed |
| *Q7. Opportunity* | Who would have had the best opportunity to commit that crime? | Naming of unrealistic suspects, or claim that no one had any opportunity to commit the crime | Acknowledgement of one's own opportunity to commit the crime |
| *Q8. Attitude* | How do you feel about being interviewed about that crime? | Negative attitude (voicing negative feelings) | Positive attitude (happy to help) |
| *Q9. Think* | Have you ever thought about committing that crime? | Acknowledgement of these thoughts, use of qualifications (e.g., "Not *really*"). | Unambiguous denial of these thoughts |
| *Q10. Motive* | Why do you think someone committed | Reluctance to speculate about the motives for | Reasonable motives for the crime, |

| | | | | |
|---|---|---|---|---|
| | | that crime? | the crime, or very specific answer. Posture shifts in the chair or anxiety-reducing behaviours | appearing comfortable while discussing the motives |
| *Q11.* | *Punishment* | What do you think should happen to the individual who committed that crime? | Suggestions of indulgent treatment, or evasive response not to suggest any specific punishment (e.g., "It's not me who has to decide about the punishment") | Suggestions of reasonably harsh punishments |
| *Q12.* | *Second Chance* | Would you be willing to give a second chance to the person who committed that crime? | Willingness to give the guilty person a second chance, evasive response ("It's hard to say"), or reference to conditions or circumstances | Unwillingness to give a second chance |
| *Q13.* | *Objection* | Why would you have never committed that crime? | Third-person response ("That's illegal"), references to future negative consequences, or reference to external factors (e.g., surveillance systems) | First-person response in which a personal trait is mentioned (e.g., "Because I am not an evil person"), or reference to present responsibilities or past accomplishments (not risking everything one has worked for during one's entire life) |
| *Q14.* | *Results* | What do you think the results of our investigation will be concerning your involvement in this case? | One-answer responses (e.g., "Clean"), or uncertainty, or evasive responses, or suspicion that the investigation will show negative results coupled with accusations against someone else | Confidence in being found innocent |
| *Q15.* | *Tell Loved Ones* | Did you tell anyone about this interview? | Denial of having told any loved person about the interview, or having played down the interview when speaking with a loved person. If asked about the reaction of the loved person, the guilty suspect would respond that that person had no real reaction one way or another or that the loved person asked whether s/he [the suspect] had committed the crime | Acknowledgement of having told loved ones about the investigation or about the interview |

*Note.* Based on Inbau et al. (2004). See the original reference for more details and examples.

Table 2

*Novice Officers' Mean Ratings of Guilt, and Univariate ANOVAs*

| BAI Question | Ratings of guilt | | Univariate ANOVAs | |
|---|---|---|---|---|
| | Guilty answers | Innocent answers | $F$ (1, 34) | $\eta^2$ |
| Q1. Purpose | 3.76 | 2.91 | 17.10**** | .335 |
| Q2. History/You | 4.14 | 2.93 | 95.47**** | .737 |
| Q3. Knowledge | 3.50 | 2.98 | 21.62**** | .389 |
| Q4. Suspicion | 3.75 | 3.38 | 7.41*** | .179 |
| Q5. Vouch | 3.73 | 2.21 | 45.30**** | .571 |
| Q6. Credibility | 4.51 | 2.91 | 30.34**** | .472 |
| Q7. Opportunity | 3.56 | 2.43 | 26.39**** | .437 |
| Q8. Attitude | 3.53 | 3.13 | 1.44 | .041 |
| Q9. Think | 2.88 | 3.91 | 20.18**** | .372 |
| Q10. Motive | 4.12 | 3.01 | 24.23**** | .416 |
| Q11. Punishment | 3.62 | 3.13 | 3.32* | .089 |
| Q12. Second Chance | 3.53 | 2.70 | 6.31** | .157 |
| Q13. Objection | 3.40 | 3.07 | 4.63** | .120 |
| Q14. Results | 3.54 | 3.36 | 0.53 | .015 |
| Q15. Tell Loved Ones | 3.45 | 2.23 | 27.64**** | .449 |

*Note*. * $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$.

Table 3

*Experienced Officers' Mean Ratings of Guilt, and Univariate ANOVAs*

| BAI Question | Ratings of guilt | | Univariate ANOVAs | |
|---|---|---|---|---|
| | Guilty answers | Innocent answers | $F$ (1, 76) | $\eta^2$ |
| Q1. Purpose | 3.78 | 3.10 | 18.86**** | .199 |
| Q2. History/You | 4.12 | 3.20 | 75.72**** | .499 |
| Q3. Knowledge | 3.65 | 3.19 | 27.94**** | .268 |
| Q4. Suspicion | 3.93 | 3.47 | 15.06**** | .165 |
| Q5. Vouch | 3.49 | 2.40 | 42.89**** | .365 |
| Q6. Credibility | 4.53 | 3.17 | 46.43**** | .379 |
| Q7. Opportunity | 3.58 | 2.78 | 22.68**** | .230 |
| Q8. Attitude | 3.77 | 2.81 | 19.66**** | .204 |
| Q9. Think | 3.29 | 3.94 | 14.23**** | .158 |
| Q10. Motive | 4.10 | 3.10 | 51.51**** | .403 |
| Q11. Punishment | 3.55 | 3.16 | 3.96** | .050 |
| Q12. Second Chance | 3.66 | 2.74 | 23.06**** | .233 |
| Q13. Objection | 3.51 | 3.21 | 6.12** | .075 |
| Q14. Results | 3.78 | 2.91 | 29.26**** | .278 |
| Q15. Tell Loved Ones | 3.56 | 2.43 | 61.24**** | .446 |

*Note*. * $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$.